



NEMO|etc.

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ENGINEER

EVALUATE

TEST

CONSULT

P.E. EVALUATION REPORT (PEER)

ICP Construction, Inc.

2775 Barber Road
Norton, OH 44203
(330) 753-4585

PEER-ICP-004.A.R11

FL6276-R11 (NON-HVHZ)

Date of Issuance: 03/21/2006

Revision 11: 10/17/2023

SCOPE:

This P.E. Evaluation Report (henceforth 'PEER') is issued under **F.A.C. Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The products described herein have been evaluated for compliance with the **8th Edition (2023) Florida Building Code** [sections noted herein](#).

DESCRIPTION: APOC® POLYSET® RTA-1

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein.

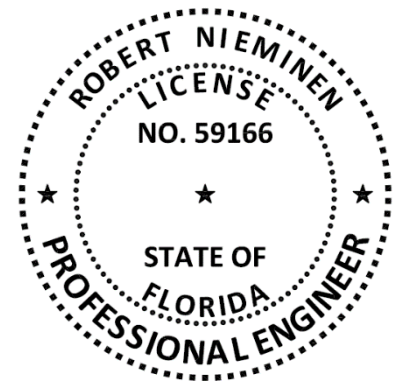
CONTINUED COMPLIANCE: This PEER is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. The acceptance of our PEERs by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance, or the production facility location(s). NEMO ETC, LLC requires a complete review of its PEER relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the PEER is displayed, then it shall be done in its entirety.

INSPECTION: Upon request, a copy of this entire PEER shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This PEER consists of pages 1 through 9.

Prepared by:



CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any company manufacturing or distributing products for which the PEERs are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING COMPONENT EVALUATION:
1. SCOPE:

Product Category: Roofing
Sub-Category: Roof Tile Adhesive
Product Approval Method: Method 1, Option D – Codified Material, Evaluation by Engineer
Compliance Statement: APOC® POLYSET® RTA-1, as produced by ICP Construction, Inc., has demonstrated compliance with the following sections of the 8th Edition (2023) Florida Building Code through testing in accordance with the Standards set forth herein. Compliance is subject to the [Installation Requirements](#) and [Limitations of Use](#) set forth herein.

2. STANDARDS:

<u>SECTIONS</u>	<u>PROPERTY</u>	<u>STANDARD</u>
1504.2.1.1	Overturning resistance	SSTD 11

3. REFERENCES:

<u>ENTITY</u>	<u>EXAMINATION</u>	<u>REFERENCE</u>	<u>DATE</u>
ERD (TST6049)	Static Uplift – SSTD 11	E42730.08.13	08/23/2013
ERD (TST6049)	Static Uplift – SSTD 11	ECM-SC6795.12.14-2	02/27/2015
NEMO (TST6049)	Static Uplift – SSTD 11	4L-ICP-18-001.05.18-1	05/15/2018
NEMO (TST6049)	Tensile Adhesion (underlayments)	4S-ICP-18-001.07.18-R1	08/01/2018
NEMO (TST6049)	Static Uplift – SSTD 11	4S-ICP-18-001.10.18-1	10/04/2018
NEMO (TST6049)	Static Uplift – SSTD 11	4S-ICP-18-001.10.18-3	10/04/2018
NEMO (TST6049)	Tensile Adhesion (ridge metal)	4i-ECM-20-SSCRT-01	09/29/2020
PRI (TST5878)	Static Uplift – SSTD 11	PFI-006-02-01	05/09/2005
PRI (TST5878)	Static Uplift – SSTD 11	PFI-008-02-03	12/14/2005
PRI (TST5878)	Static Uplift – SSTD 11	PFI-008-02-04	12/14/2005
PRI (TST5878)	Static Uplift – SSTD 11	FOP-009-02-05 Rev2	06/01/2015
IAPMO UES (QUA10547)	Quality Assurance	Service Confirmation	02/09/2021
IAPMO UES (QUA10547)	Quality Assurance	UES 629	06/05/2023
IAPMO UES (QUA10547)	Quality Assurance	Florida BCIS	Current

4. PRODUCT DESCRIPTION:

4.1 **APOC® POLYSET® RTA-1** is a single component polyurethane foam roof tile adhesive distributed in factory, pre-mixed canisters.

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance. PEERs are not to be construed as representing any attributes not specifically listed, nor are PEERs to be construed as an endorsement of the subject, or a recommendation for its use. There is no warranty by NEMO ETC, LLC or Robert Nieminen, P.E., express or implied, as to any finding or other matter in this PEER, or as to any product covered by the PEER.
- 5.2 This PEER is not for use in FBC High Velocity Hurricane Zone jurisdictions, as defined in FBC Chapter 2 (Broward and Miami-Dade Counties).
- 5.3 This PEER pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.
- 5.4 This PEER does not include evaluation of fire classification. Refer to **FBC 1505** or **R902** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
- 5.5 This PEER does not include evaluation of roof edge termination.

- 5.6 **APOC® POLYSET® RTA-1** may be used with flat, low and high profile tiles having a current [Florida Product Approval](#), [Miami-Dade NOA](#) or approved on a local-level by the Authority Having Jurisdiction.
- 5.6.1 Field tiles, meeting the limitations of **FBC 1609.6.3**, installed using **APOC® POLYSET® RTA-1** are limited to projects having an Aerodynamic Uplift Moment (M_a), determined in accordance with Table 2HB, 2HC, 2HD, 2GB, 2GC or 2GD of the **FRSA/TRI Manual 7th Edition** or **FBC 1609.6.3**, not greater than the Allowable Overturning Moment values in [Table 1](#). Refer to [Section 10](#) and **ICP Construction, Inc.** published installation instructions for Adhesive Paddy Placement details.
- 5.6.2 Data in [Table 1](#) relates to installation over a TWO-PLY underlayment system, as detailed in the **FRSA/TRI Manual 7th Edition**, using a hot-asphalt-applied, ASTM D6380, Class M cap sheet (commonly called a '30/90 system'). Alternate underlayment systems are those having a current [Florida Product Approval](#) and/or approved on a local-level by the Authority Having Jurisdiction, listed specifically for use with **APOC POLYSET® RTA-1**.
- 5.6.3 Tile roof systems using tile types or profiles other than those listed above acquiring acceptance for use with **APOC POLYSET® RTA-1** shall be tested in accordance with **SSTD 11** or [Testing Application Standard TAS 101](#). For the interdependent multi-paddy method, an additional 2-to-1 margin above that specified shall be applied in determining the 'allowable overturning moment'.

TABLE 1: FIELD TILES IN APOC® POLYSET® RTA-1 ALLOWABLE OVERTURNING MOMENT PERFORMANCE DATA (MARGINS OF SAFETY ALREADY APPLIED)					
TILE (FBC 1609.6.3)		ADHESIVE PADDY PLACEMENT (SECTION 10)			ALLOWABLE OVERTURNING MOMENT (FT-LBF)
TYPE	PROFILE	PLACEMENT DETAIL	PADDY DETAILS		
Clay or Concrete	Flat / Low	#1	<u>Interdependent</u> : Two (2) ribbons, 11 grams each Ensure minimum 8 in ² contact area to underside of tile, and minimum 10 in ² contact area at the tile head lap	50	
Concrete	Medium	#2	<u>Interdependent</u> : Two (2) ribbons, 11 grams each Ensure minimum 6 in ² contact area to underside of tile, and minimum 10 in ² contact area at the tile head lap	44	
Clay	High	#3	<u>Interdependent</u> : Two (2) ribbons: <ul style="list-style-type: none"> • 22 grams tail-to-substrate • 11 grams at head-lap Ensure minimum 12 in ² contact area to underside of tile, and minimum 18 in ² contact area at the tile head lap	36	
Concrete	High			33	
Clay	Cap & Pan (Barrel)	#4	<u>Independent</u> : <u>Pan Tile to Underlayment</u> : Two (2) ~7-inch long x ~6 gram oblong shaped beads on underlayment, side-by-side, where the center of the pan tile contacts the deck starting ~2 to 3-inches from the eave end of the pan tile <u>Cap Tile to Pan Tile</u> : One (1) ~7-inch long x ~6 gram oblong shaped bead at each long edge of the cap tile, ¼ to 1-inch from each edge, starting ~2 to 3-inches from the eave end working towards the ridge. Turn cap tile over and install onto pan, butting the second course pan tile eave end on underlayment, side-by-side, where the center of the pan tile contacts the deck starting ~2 to 3-inches from the eave end of the pan tile.	93	
Clay or Concrete	Low/Flat	#5	<u>Interdependent</u> : Two (2) #8 wood screws at tail & one (1) ribbon, 11 gram at headlap Ensure minimum 10 in ² contact area at the tile head lap	73	

TABLE 1: FIELD TILES IN APOC® POLYSET® RTA-1 ALLOWABLE OVERTURNING MOMENT PERFORMANCE DATA (MARGINS OF SAFETY ALREADY APPLIED)					
TILE (FBC 1609.6.3)		ADHESIVE PADDY PLACEMENT (SECTION 10)			ALLOWABLE OVERTURNING MOMENT (FT-LBF)
TYPE	PROFILE	PLACEMENT DETAIL	PADDY DETAILS		
Concrete	Medium	#6	<u>Interdependent</u> : Two (2) #8 wood screws at tail & one (1) ribbon, 11 gram at headlap Ensure minimum 10 in ² contact area at the tile head lap		65
Clay	High	#7	<u>Interdependent</u> : Two (2) #8 wood screws at tail & one (1) ribbon, 11 gram at headlap		44
Concrete	High		Ensure minimum 18 in ² contact area at the tile head lap		63

- 5.7 **APOC POLYSET® RTA-1** may be used with hip and ridge tiles having a current [Florida Product Approval](#), [Miami-Dade NOA](#) or approved on a local-level by the Authority Having Jurisdiction.
- 5.7.1 Hip and ridge tiles using **APOC® POLYSET® RTA-1** are limited to projects having hip/ridge design pressure requirements, determined in accordance with Table 1H or 1G of the **FRSA/TRI Manual 7th Edition, FBC 1609** or **FBC Residential Chapter 3**, not greater than the Allowable Uplift values in [Table 2](#). Refer to **ICP Construction, Inc.** published installation instructions for Adhesive Paddy Placement details.

TABLE 2: HIP & RIDGE TILES IN APOC® POLYSET® RTA-1 ALLOWABLE UPLIFT RESISTANCE PERFORMANCE DATA (MARGINS OF SAFETY ALREADY APPLIED)				
TILE	SUBSTRATE	DETAIL (SECTION 10)	ATTACHMENT DETAILS	ALLOWABLE DESIGN PRESSURE (PSF)
Clay or Concrete	2x PT ridge board	#8	<u>Interdependent</u> : Head: One (1) #10 x 2½" screw; Overlap: 1x6-inch x ~10.5 gram	187
Clay or Concrete	East Coast Metals "Trim Lock™" (FBC FL5394): <i>aluminum</i> or East Coast Metals "Trim Lock™ Plus" (FBC FL5394): <i>aluminum, Galvalume® or stainless steel</i>	#9	<u>Interdependent</u> : On Trim-Lock™ metal: One (1) ~7-inch long x ~10 gram oblong shaped paddy centered on metal. At Tile Headlap: One (1) ~7-inch long x ~10 gram oblong shaped bead at tile headlap.	93
Clay or Concrete	East Coast Metals "Trim Lock™" (FBC FL5394): <i>Galvalume® or stainless steel</i>			110

6. INSTALLATION:

- 6.1 **APOC® POLYSET® RTA-1** and the tile roof assembly shall be installed in accordance with the manufacturers’ current published instructions, but not less than the requirements of **FBC 1507.3** and the **FRSA/TRI Manual 7th Edition**, subject to the [Limitations of Use](#) herein.
- 6.1.1 Installation of **APOC® POLYSET® RTA-1** shall be performed by applicators that hold a valid **Qualified Applicator Card** presented by **ICP Construction, Inc.**
- 6.2 Underlayment shall hold current [Florida Product Approval](#) for use with tile roofing systems. The underlayment Product Approval shall specify allowable use with **APOC POLYSET® RTA-1**. The underlayment Product Approval shall specify attachment methods for the underlayment system to resist wind uplift design loads in accordance with Table 1H or 1G of the **FRSA/TRI Manual 7th Edition** or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.
- 6.3 Hip and ridge boards or hip/ridge metal shall be installed in accordance with the **FRSA/TRI Manual 7th Edition**. Proprietary hip and ridge metal shall be installed in accordance with the manufacturer’s [Florida Product Approval](#).

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

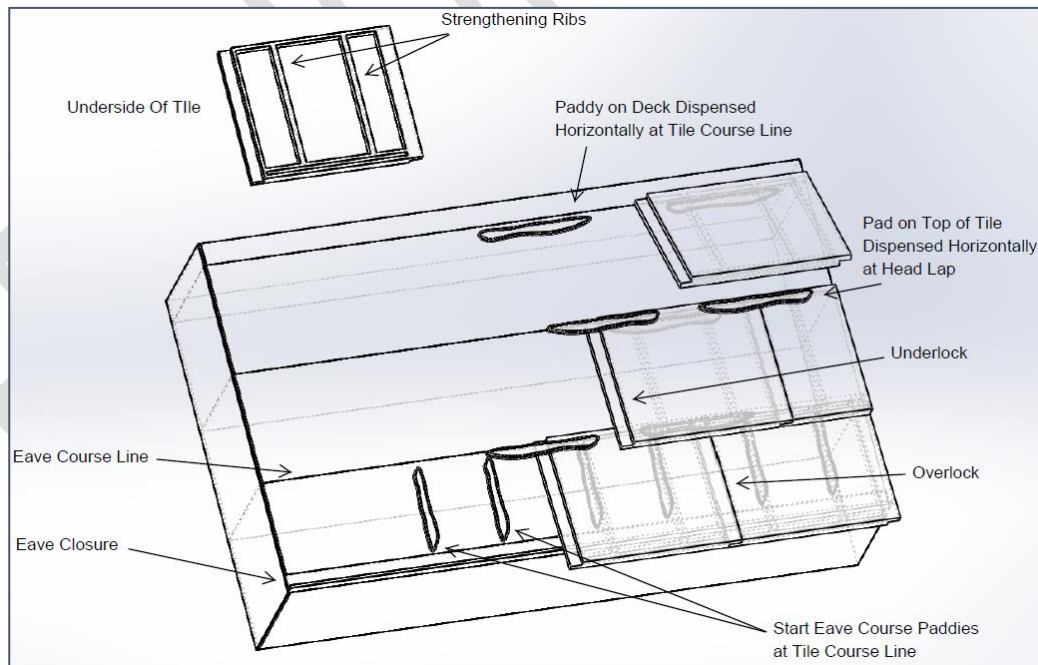
Norton, OH

9. QUALITY ASSURANCE ENTITY:

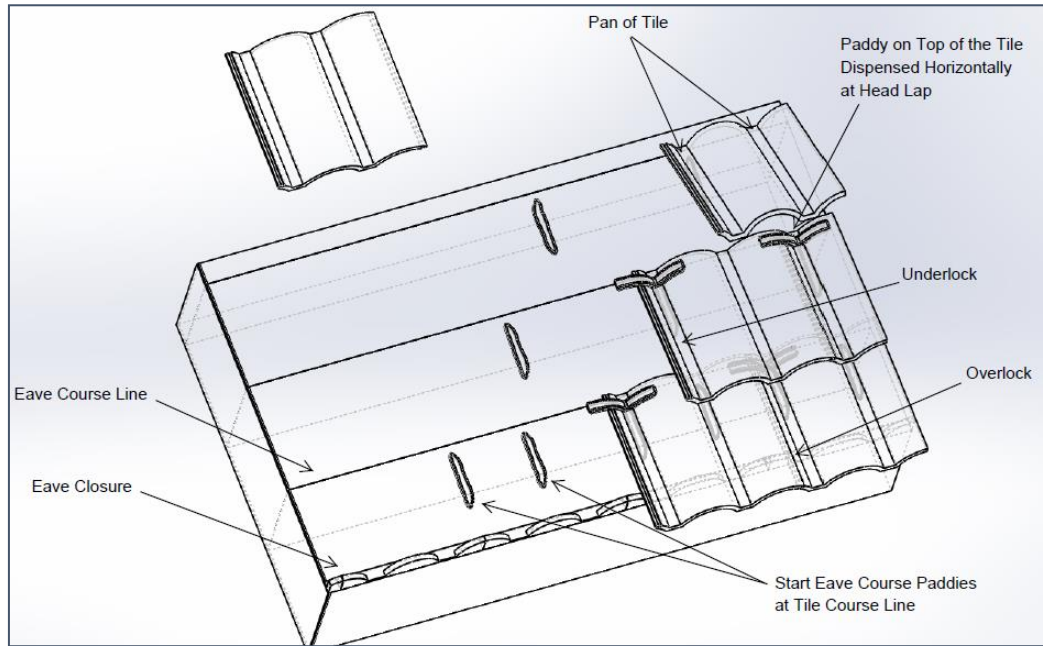
[IAPMO UES](#) – QUA10547; (909) 223-4422; barry.johnson@uniform-es.org

10. PADDY PLACEMENT DETAILS (FROM ICP CONSTRUCTION, INC. PUBLISHED LITERATURE):

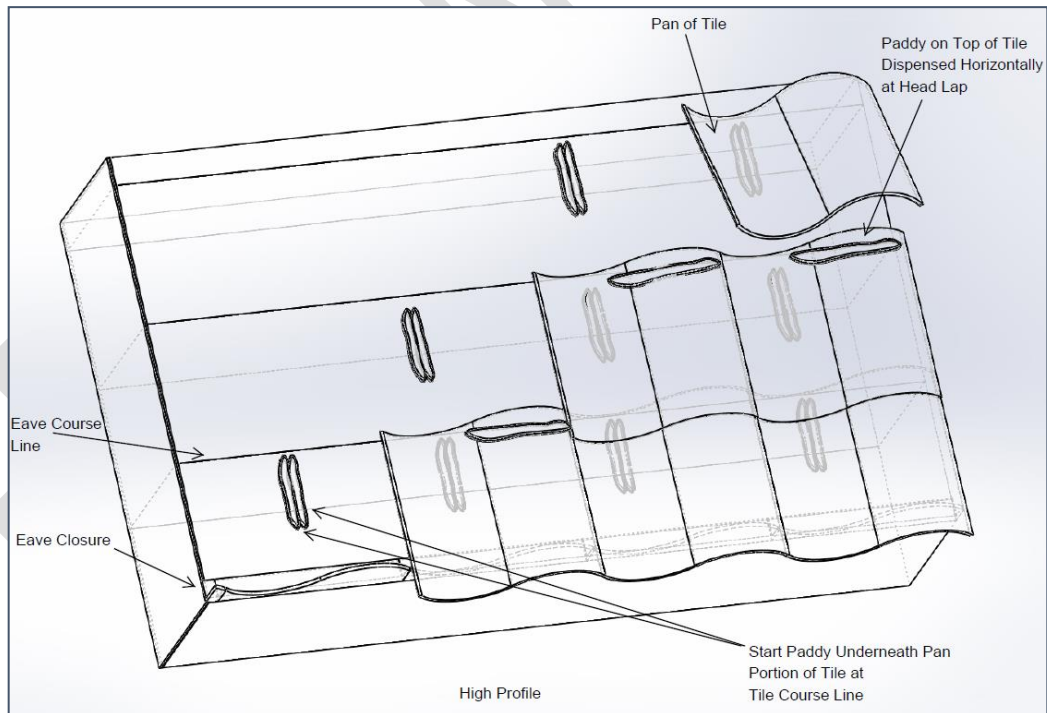
10.1 Detail #1: Flat Profile Tile:



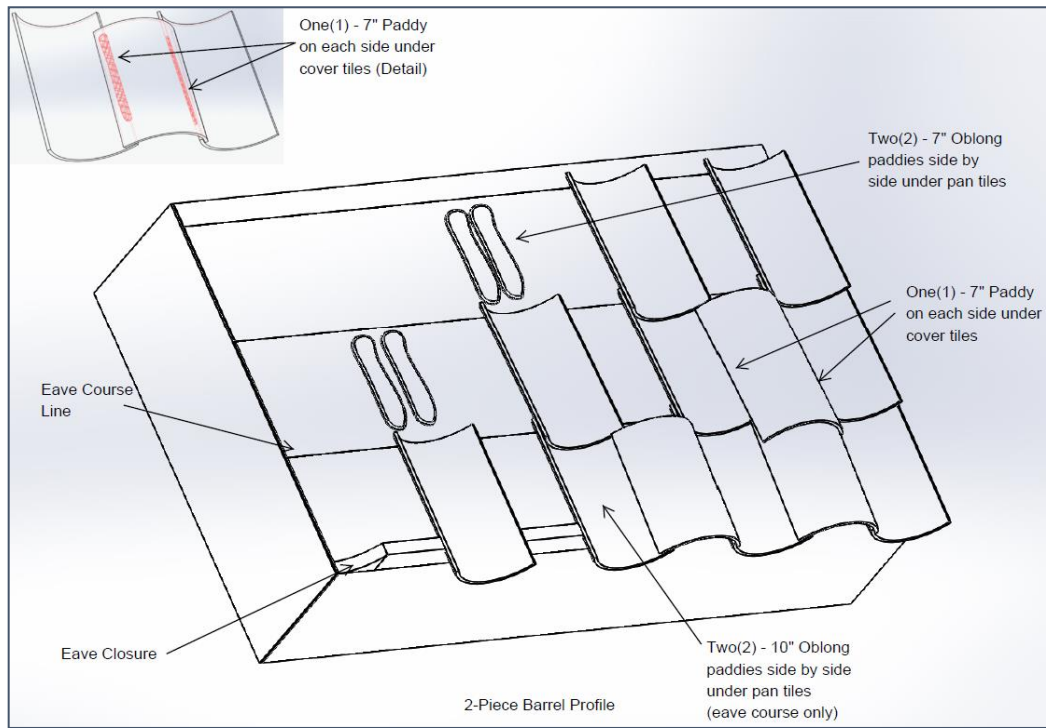
10.2 **Detail #2: Low/Medium Profile Tile:**



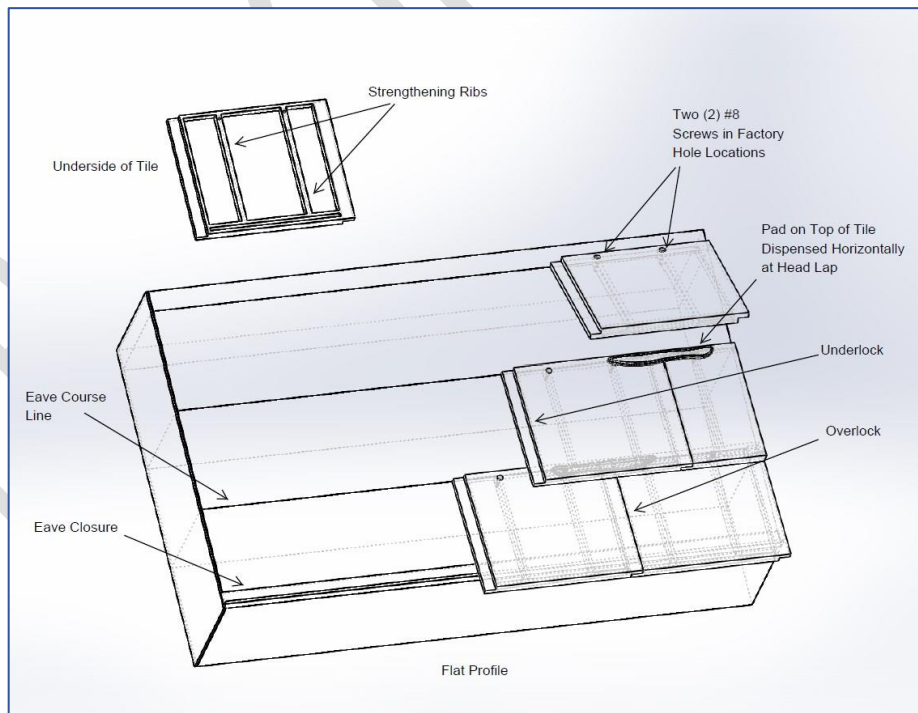
10.3 **Detail #3: High Profile Tile:**



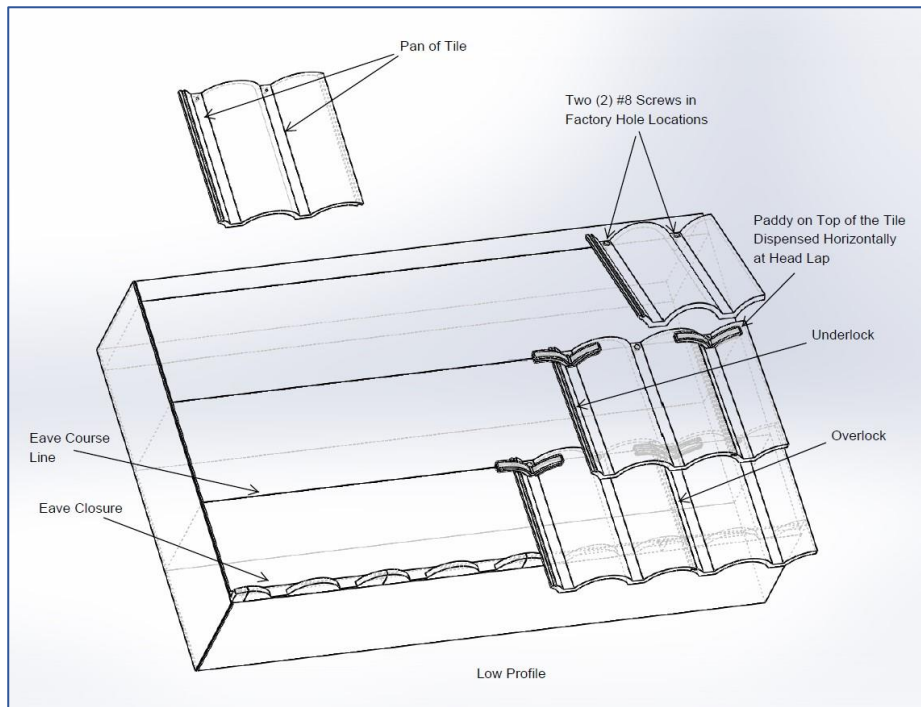
10.4 **Detail #4: Two Piece Barrel (Cap & Pan) Tile:**



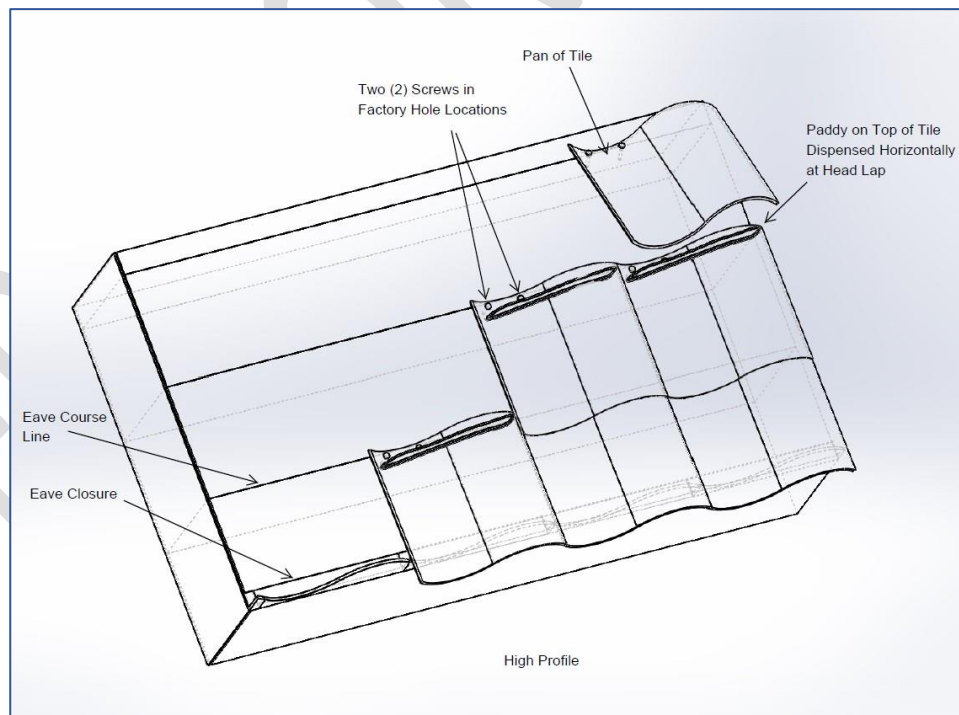
10.5 **Detail #5: Low/Flat Profile Tile; Hybrid System:**



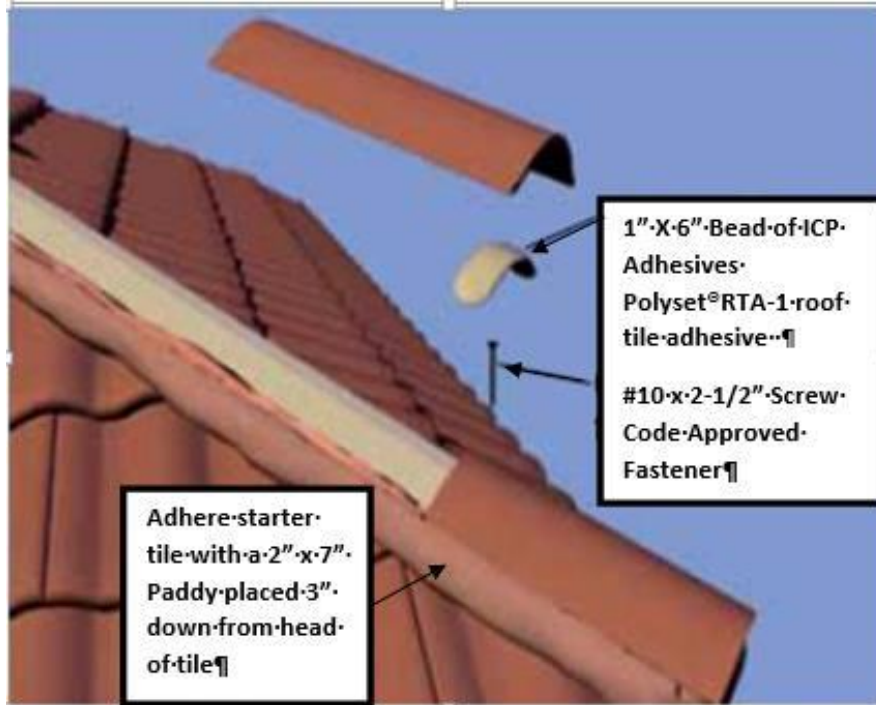
10.6 **Detail #6: Medium Profile Tile; Hybrid System:**



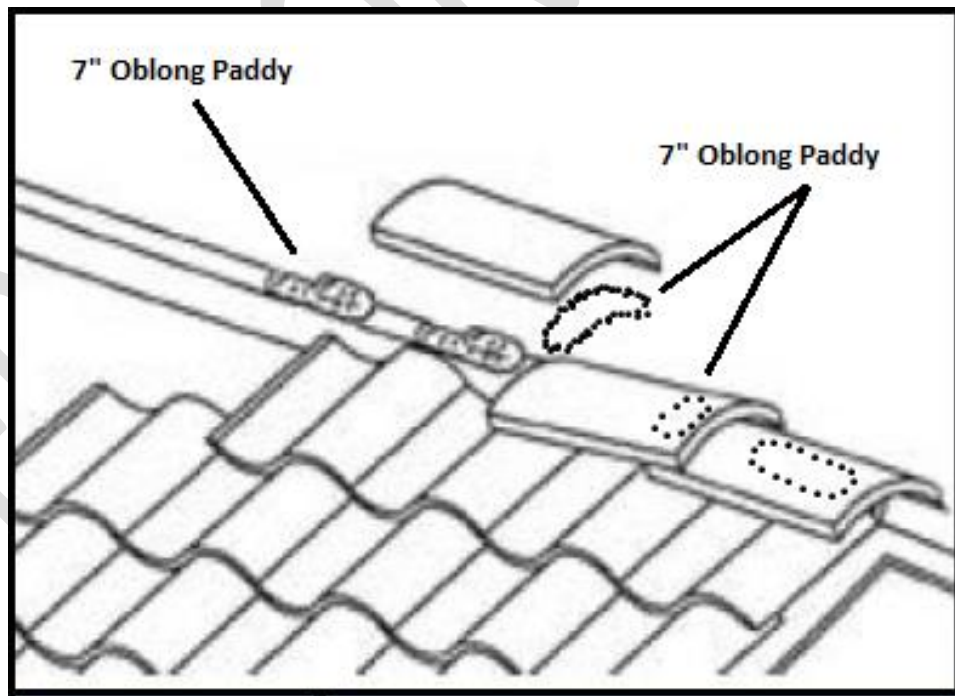
10.7 **Detail #7: High Profile Tile; Hybrid System:**



10.8 Detail #8: Hip and Ridge (interdependent with screw):



10.9 Detail #9: Hip and Ridge (interdependent placement):



- END OF PEER -